



# Understanding ICT adoption in the small firm sector in Southern Africa

Understanding  
ICT adoption

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## Abstract

**Purpose** – This paper aims to examine information and communications technology (ICT) adoption among small hotel businesses in South Africa, Botswana and Zimbabwe.

**Design/methodology/approach** – This qualitative research is based on seven case studies that fall within the South African and European Union small and medium enterprises (SMEs) definitions. The case studies are constructed on the basis of 60 semi-structured interviews and supporting secondary data. The authors adopt the Gibbs *et al.* model which identifies and brings together ICT adoption factors that include government role, environmental attributes, owner/manager attributes, organisational attributes and social networks. Archer's epistemological bootstrapping technique is applied for analysing the data. In addition, Zappala and Gray's stage model is used to gauge the level of ICT uptake reached by each case study. In this way, the authors incorporate an important additional element for examining ICT adoption.

**Findings** – Apart from providing rich insights into the ICT adoption process, the results highlight the individual distinctive behavioural characteristics as well as the stage of ICT adoption reached by each case study. The paper finds that case studies that operated in a stable business environment; with organisational readiness; financial and owner manager support seemed readily engaged in ICT adoption. Social networks played a crucial role, especially among those small businesses with resource constraints.

**Research limitations/implications** – The findings from seven individual cases in the three South African Development Community (SADC) countries have limited cross-case and cross-national comparisons owing to the distinctive organisational characteristics of the SMEs. Furthermore, the selection of case studies from a single sector of small hotel businesses results in data which only reflect the experiences of SMEs in typical urban locations of Johannesburg, Gaborone and Harare. The implications of these limitations mean that further data are needed from other small firm sectors and more SADC countries in order to gain a better understanding of ICT adoption among SMEs in the region.

**Originality/value** – The findings contribute to the literature on ICT adoption among SMEs in South Africa, Botswana and Zimbabwe. The results bring new insights from small hotel businesses and help to explain ICT adoption, which is relatively under-researched in these SADC countries.

**Keywords** Communication technologies, Small enterprises, Epistemology, Southern Africa, Case studies  
**Paper type** Research paper



## 1. Aim and objectives of the paper

This paper aims to present the results of a qualitative study based on seven in-depth case studies focusing on information and communications technology (ICT) adoption among small hotel businesses located in South Africa, Botswana and Zimbabwe. In particular, the authors intend to highlight key factors driving ICT adoption, including the distinctive and behavioural characteristics of individual case study companies

operating within the three Southern African Development Community (SADC) countries. The main objectives of the paper are: first, to examine how the identified key attributes (government role, environmental, owner/managerial, organisational and social networks) influence the ICT adoption process within these small hotel businesses. Second, to evaluate the levels of ICT adoption reached by each case study in South Africa, Botswana and Zimbabwe. The findings of our paper make a twofold contribution to the SME field. First, research among the chosen SADC countries is sparse, especially on the topic of ICT adoption. Based on the results from the individual case studies, this paper brings rich qualitative insights into this area of study. Second, the paper offers reflections on the application of the Gibbs *et al.* (2007) and Zappala and Gray (2006a, b) models in South Africa, Botswana and Zimbabwe.

1.1 Structure of the paper

The paper is organised as follows: Section 1 outlines the purpose of the paper and presents a brief overview of the ICT infrastructure development investment, internet, fixed-line telephone and mobile networks for South Africa, Zimbabwe and Botswana. In this way, the paper introduces the context and possible environmental drivers and/or inhibitors to ICT adoption for small and medium enterprises (SMEs) within these countries. Section 2 discusses small firm distinctive and behavioural characteristics pertinent for ICT adoption as found in the literature, including relevant theoretical perspectives and models focusing, particularly on the motivation and stages of ICT uptake (Section 3). Subsequently, Section 3 presents the interpretive framework upon which the data collection and analysis was based as well as key themes explored during this research. Section 4 explains the methods and data sources, while Section 5 delivers the results of, and discussions around, ICT adoption found among each of the seven case studies. The conclusion (Section 6) reflects on ICT adoption experiences of the different case study SMEs in the three SADC countries.

1.2 Overview of the ICT adoption environment in Botswana, South Africa and Zimbabwe

Compared to Botswana and Zimbabwe, better environmental conditions and more advanced ICT infrastructure development exist in South Africa as a result of the latter's investment in telecommunications (Table I).

Moreover, South Africa remains the dominant internet centre as highlighted in Table II. By several measures, South Africa's telecommunications sector is considered the largest, not only in the SADC region but in Africa, in terms of the number of mobile subscribers, data service users and technological capability (Buddecom, 2008b).

This is also borne out in Tables III and IV, which compare fixed-line telephone and mobile phone network data, respectively, for the three SADC countries.

Country	Investment in telecommunications (US\$ million)	
	1995-1999	2000-2004
South Africa	5,978.3	9,144.0
Botswana	97.0	85.0
Zimbabwe	46.0	59.0

**Table I.**  
Investment in  
telecommunications  
infrastructure (1995-2004)

**Source:** Adapted from World Bank Development Indicators (2006)

**Table II.**

Summary of internet data  
for South Africa,  
Botswana and Zimbabwe

Country	South Africa	Botswana	Zimbabwe
National internet hub (exchange)	Johannesburg Exchange	Botswana Exchange	Zimbabwe Exchange
Number of ISPs	Over 200	29	28
Examples of major ISPs	M-web Telkom Internet Internet Solutions	Info Botswana Botsnet UUNet Botswana	M-web Zimbabwe Online Africa Online
Internet users	5.1 million	60,000	1.4 million
Internet penetration (%)	17	3.3	9.84
African average (%)	4.7		

**Note:** Percentage of population

**Sources:** Adapted from Internet World Stats (2008); Buddecom (2008a, b, c)

**Table III.**

Fixed-line telephone  
network data for  
South Africa, Botswana  
and Zimbabwe

Country	South Africa	Botswana	Zimbabwe
Fixed telephone lines in service	4.642 million	1,32,000	3,43,200
Fixed-line teledensity (%)	10.5	7.3	2.81
Public payphones (including mobile)	1,58,000	12,000	17,500
Major public telecommunications operators	Telkom SA Ltd	Botswana Telecommunications Corporation	TelOne

**Note:** Percentage of population

**Sources:** Adapted from Buddecom (2008a, b, c) based on various industry data

**Table IV.**

Mobile phone network  
data for South Africa,  
Botswana and Zimbabwe

Country	South Africa	Botswana	Zimbabwe
Mobile subscribers	42.7 million	1.43 million	1.3 million
Annual growth (%)	16	38	28
Mobile penetration (%)	97	78	10.6
Major mobile operators	Vodacom MTN Cell C	Mascom Wireless Orange Botswana	NetOne Econet Wireless Zimbabwe Telecel Zimbabwe

**Note:** Percentage of population

**Sources:** Adapted from Buddecom (2008a, b, c) based on various industry data

Despite these technology roll-out efforts and the existing national ICT policies in South Africa, Botswana and Zimbabwe, more could still be done to support and strengthen their operationalisation (Buddecom, 2008a, b, c), including more effective strategies that promote ICT adoption among SMEs in these countries.

## 2. Distinctive and behavioural characteristics of SMEs and ICT adoption factors

This section begins by explaining briefly the definition of SMEs adopted in this study, followed by a discussion about distinctive and behavioural characteristics of SMEs and the way in which these influence ICT adoption.

While the definition of SMEs varies around the world, the authors have chosen to adopt the one used in South African (PNC on ISAD, 2004), and European Union (EU)

classification (Curran and Blackburn, 2001; Verheugen, 2003) for SMEs which categorises small, medium and micro enterprises as having an upper limit of 250 employees. The distinctiveness and different behavioural characteristics of SMEs have been acknowledged by SMEs researchers in earlier research:

Entrepreneurs and owner-managers come from different genders and/or a wide range of ethnic, cultural and educational backgrounds and from every age group. While some start their own businesses from scratch, others inherit or buy an on-going business. Some are sole owners while others run their businesses with partners or other directors. Some are family businesses with owners, partners or fellow directors and even employees linked by blood or marriage. Others are run by people who have come together solely because they share common goals, complementary skills or access to capital (Curran and Blackburn, 2001, p. 6).

Furthermore, the behavioural and distinctive characteristics of SMEs have been taken into account by other researchers analysing factors affecting ICT adoption among SMEs (Manueli *et al.*, 2007; van Akkeren and Cavaye, 1999). These include both owner-manager and small firm characteristics as outlined in the subsequent Sections 2.1 and 2.2.

### *2.1 SME owner-manager characteristics*

The owner manager characteristics include perceived benefits of ICT adoption, ICT literacy, level of assertiveness in terms of business decision processes, perceived control over requirements for opportunities and resources as well as mistrust of ICT and lack of time (Zappala and Gray, 2006a,b; van Akkeren and Cavaye, 1999; Manueli *et al.*, 2007). According to Beckinsale and Ram (2006), the perceived benefits of ICT adoption often include focus on improving business efficiency, operational effectiveness and the need to reach out for new markets and opportunities. In addition, the existing theories suggested a strong tendency to adopt ICT in small businesses if owner managers and employees have ICT literacy, skills and expertise. Moreover, access to internal and external support and motivation from ICT experts is crucial for ICT adoption and e-business success in SMEs (Windrum and de Berranger, 2002).

SMEs owner managers viewed as “more entrepreneurial, risk-takers, innovative and invariably creative” are considered to be critical to the organisational readiness for ICT adoption (Zappala and Gray, 2006a,b; Beckinsale and Ram, 2006). Furthermore, Manueli *et al.* (2007) suggested that business action is driven from the key decision-makers responsible for defining appropriate ICT goals and identifying critical ICT business needs and allocating financial resources to facilitate ICT adoption. In addition, Gray (2006a, b) argued that small business owners with appropriate qualifications and ICT skills are more growth-oriented while those without these prerequisite characteristics are more likely to be growth averse.

Further review of literature revealed that age and experience of owner managers are some of the distinctive characteristics which influence on ICT adoption in small businesses (Beckinsale and Ram, 2006; Manueli *et al.*, 2007; Windrum and de Berranger, 2002). According to Gray (2006a, b), resources and capabilities of SMEs, which are both linked to the age and experience of owner manager as well as age and size of the firm, are viewed as important attributes for effective innovation and growth (Smallbone *et al.*, 1995). The source argued that SMEs that are oriented towards competition and growth may lack the resources and personal capabilities to adopt ICT and manage growth successfully, perhaps due to age, cultural and educational background of the owner.

Social networks of business owners also play a crucial role in driving or inhibiting ICT adoption in SMEs. For example, the size and type of social structures as well as the nature of social links and preference for personal friendships and contacts (Beckinsale and Ram, 2006) may have positive or negative influence on ICT adoption in SMEs. In terms of positive influence, social networks are crucial to small business owners for sharing information, business experience and technical knowledge especially, if the SMEs are experiencing resource constraints which inhibit ICT adoption, formal training and effective innovation (Gray, 2006a,b). Internet and web site adoption, for example, may help SMEs to participate in useful business and social linkages “without a strong need for spatial proximity” (Gray, 2006a,b). Manuelli *et al.* (2007) further added that “information filters through the networks and depending on the nature of the networks and the roles of its opinion leaders, new innovations are either adopted or rejected.”

Given the importance of key decision-makers in ICT adoption decisions at organisational level, it is, therefore, crucial for small business managers to recognise possible links and partnerships in their social networks (Gibbs *et al.*, 2007; Bandiera and Rasul, 2002) as these can bring opportunities and success ventures.

## 2.2 Small firm characteristics

The small firm characteristics include organisation's ICT readiness (Zappala and Gray, 2006a,b); external pressure from customers, suppliers and competitors. The business structure, size, sector, status and information intensity are also key characteristics of SMEs, which can influence the technological needs and capacity for ICT adoption. According to Manuelli *et al.* (2007, p. 177), “little or no technology use reflects low ICT readiness and a strong reluctance for ICT adoption.” The source suggested business size as key in determining the structure and internal ICT requirements for the operations. In terms of information intensity, the existing theories suggested that SMEs that handle large amounts of information are most likely to adopt more ICT solutions to improve efficiency, effectiveness and competitiveness (Windrum and de Berranger, 2002; Manuelli *et al.*, 2007).

Distinctively, SMEs are more likely to experience several ICT adoption and implementation challenges given their relatively small sizes, simple structures, shortage of resources and lack of capacity to view ICT strategically (Beckinsale and Ram, 2006). Such distinctive characteristics of SMEs (Curran and Blackburn, 2001; Smallbone and Welter, 2001a) may bring in other several factors, which tend to inhibit ICT adoption in the small firm sector. Based on previous studies, ICT adoption in SMEs can be driven or inhibited by government intervention, which is also viewed as an external source of pressure apart from the suppliers, customers and competitors. The role of national government involves policy development, and, therefore, crucial as a standard setting and knowledge dispersing body (Seyal and Rahman, 2003).

Furthermore, Smallbone and Welter (2001b) argued that “direct support measures are not the main role for government.” Government is expected to create the framework conditions for private sector development with a view to supporting the growth and sustainability of SMEs, particularly in ICT adoption and development of e-business. The source suggested that many enterprises could be set up, survive and even grow without government direct intervention. This could be attributed to the commitment and creativity of owner managers (Smallbone *et al.*, 1995) in mobilising resources and flexibility in adapting to hostile external environments. However, the source argued that

the number of firms could remain small in size and contribution to economic development rather limited under such inhibiting conditions.

3. Review of ICT adoption theories and models

This section commences with a definition of ICT followed by an explanation of the interpretive framework adopted by the authors for the research presented in this paper.

3.1 Definition of ICT

According to Beckinsale and Ram (2006), ICT is defined as “any technology used to support information gathering, processing, distribution and use.” The definition of ICT taken in this paper classifies it into information technologies, telecommunications technologies and networking technologies (Nicol, 2003). This covers all forms of technologies such as computers, internet, websites as well as fixed-line telephones, mobile phones and other wireless communications devices, networks, broadband and various specialised devices (Manueli *et al.*, 2007).

3.2 Research framework

Drawing on the ICT adoption (Gibbs *et al.*, 2007) and stage approaches (Zappala and Gray, 2006a,b), we have developed the following theoretical framework (Table V).

Key attributes (factors) (Gibbs <i>et al.</i> , 2007)	Examples of dimensions used for explaining (distinctive characteristics of small firms)	Stages of ICT adoption (Zappala and Gray, 2006a, b)
Government role	National policies, vision, strategies and support programmes, taxes and tariffs, regulatory frameworks, subsidies, support infrastructure	Pre-stage: uninvolved (naïve, indifferent, hostile)
Environmental attributes	Business environment, suppliers, customers, competitors, peace and stability	Stage 1: threshold (keen to try ICT, unsure how)
Owner/managerial attributes	Key decision-makers (management) support and attitude, motivation, perceived benefits, computer literacy, assertiveness, perceived control, mistrust of ICT industry, lack of time, age and cultural background, ICT and business qualifications, skills and experience	Stage 2: beginner (recently online but unsure of where to go next)
Organisational attributes	Organisational readiness, business size, sector, type, operations, status, ICT expertise, customer-supplier/dependency, business structural sophistication (simple/complex), information intensity, access to resources (human, financial, technological) support, marketing and strategies	Stage 3: intermediate (internet, e-mail, web site, no ICT strategy)
Adoption attributes	Perceived usefulness, perceived ease of use	Stage 4: advanced (ICT an integral part of business strategy)
Social networks	Network types (formal, informal) associations, network size, effects and density, network externalities and support agencies	Stage 5: innovative (capability to exploit ICT strategically in process and product innovations)

**Table V.**  
Framework of key factors  
and stages of ICT  
adoption in small firms

**Sources:** Adapted from Gibbs *et al.* (2007); Zappala and Gray (2006a, b)



Our research framework (Table V) brings together key ICT adoption factors (Gibbs *et al.*, 2007, p. 74) found in the existing literature. These include government role, environmental attributes, owner (managerial) and organisational attributes, adoption attributes and social networks. These key factors were chosen based upon their significant influence on ICT uptake and prevalent usage by other researchers (Gray, 2006a,b; Beckinsale and Ram, 2006; Gibbs *et al.*, 2007; Ritchie *et al.*, 2005; Brown and Licker, 2003; Scupola, 2006) largely deriving their theoretical foundation from the Davis's (1989) technology acceptance model (TAM). Apart from offering the means to identify the stages of ICT adoption reached by the case studies in South Africa, Botswana and Zimbabwe, the framework (Table V) presents the key ICT adoption attributes used by the authors to analyse and interpret qualitative data from these small firms. The authors recognise, however, that the framework only provides a snapshot of ICT adoption in small firms without addressing their dynamic circumstances. In addition, the linearity in ICT adoption is still implicit in the framework as a result of incorporating the stage model. Nevertheless, the framework helps to identify the key ICT adoption attributes, including the distinctive characteristics of small firms and provides the means to evaluate the stages of ICT adoption reached by the case studies.

#### 4. Methods and data sources

This section explains the epistemological bootstrapping analytical technique (Archer, 1988) applied in this paper. The section also outlines the important role played by the research framework (Table V) in informing and underpinning the data analysis process, including the reasons for the authors adopting a multiple case study approach (Yin, 2003). It also provides a summary of the case study participants (Table VI).

The rationale for adopting a qualitative approach for this study is twofold. In the first instance, as explained by Marschan-Piekkari and Welch (2006):

[...] qualitative research may be preferable in developing countries, where the secondary data required for random samples may be lacking [...], and in those cultures in which particular emphasis is placed upon the development of social, face-to-face relations and trust.

Research participants	SA1	South Africa SA2	SA3	Botswana B1	B2	Zimbabwe Z1	Z2	Total
Owner/managers	1	2	1	2	3	2	1	12
Receptionists	3	–	1	3	2	2	2	13
Other Employees, e.g. restaurant and bar workers, security, cleaners	1	2	–	3	3	5	2	16
Customers (guests)	5	Guests' feedback and comments	Guests' feedback and comments	1	4	5	1	16
Tour operators	1			1			1	3
Total per establishment	11	4	2	10	12	14	7	60
Total per country		17			22		21	
		South Africa		Botswana		Zimbabwe		
Total number of hotel businesses		3			2		2	7

**Source:** Interviews, observation and document analyses

**Table VI.**  
Summary of case studies  
and interviewees in South  
Africa, Botswana and  
Zimbabwe

Furthermore, the use of case studies offered the authors valuable insights into existing theory, management situations and decision-making processes (Marschan-Piekkari and Welch, 2006; Miles and Huberman, 1994; Ghauri and Grønhaug, 2005). Our intention was to bring out the details from viewpoints of participants by using multiple sources of data such as face-to-face interviews, observation and written documents. Primary data was, therefore, mainly collected through semi-structured interviews, which were complemented by participant observation and document analysis. A total of seven case studies were theoretically sampled rather than selected on the basis of their representativeness in South Africa, Botswana and Zimbabwe. These were small hotel businesses which helped in conducting a total of 60 key interviews involving participants that include owner managers, employees and customers as shown in Table VI.

As shown in Table VI above, the use of pseudonyms (SA1, SA2, SA3, B1, B2, Z1 and Z2) to represent case studies was necessary to address the issues of anonymity and confidentiality. In some cases, where it was not possible to interview guests, notably in SA2 and SA3, we used the hotels' guest feedback sheets to capture the views of the customers, as illustrated in the following citations:

You have a beautiful place here and we've really enjoyed seeing all the animals, the pool and the relaxed atmosphere. We will certainly recommend staying here to anyone wishing to visit Johannesburg (SA2, Guests from Sydney, Australia).

Another customer from England added:

We arrived here for our last night before flying back home to England. A big regret is that we didn't spend at least a couple of nights here as the accommodation is first class and the hospitality couldn't be better! (SA2, Guests from Plymouth, England).

A customer from South Africa wrote the following comments about SA3:

My stay here was very pleasant and I highly recommend the place to other visitors! It's very close to (Johannesburg International) Airport and easy to find (online) (SA3, Guest from South Africa).

By using multiple examples of cases, there is more emphasis on exploring the diversity of individual cases and their unique contexts rather than on producing generalisable results. Nevertheless, the different viewpoints from various participants offer broad insights (Druckman, 2005) that help to explain and understand ICT adoption, including the distinctive and behavioural characteristics of SMEs in the three SADC countries.

#### *4.1 Epistemological bootstrapping analytical technique*

The underlying technique in the analytical and interpretative process within the multiple case study methodology is that of epistemological bootstrapping (Archer, 1988). In this analytical process, crucial insights are systematically drawn from relevant existing theories and models on ICT adoption in small firms to develop an initial interpretative frame of reference (Sections 2.0 to 3.2). Our framework (Table V) provides a synthesis and justification for the inclusion of relevant ICT adoption perspectives and presents the key factors that include government role, environmental attributes, organisational attributes, owner/manager attributes, adoption attributes and social networks. These were conceptualised as major themes in the data analysis, and also used in the construction of the interview guide. Based on the epistemological bootstrapping technique, the insights derived from the existing theories and



the research framework (Table V) are progressively used to inform and foothold the case study data analysis process.

## 5. Findings

In this section, we begin by summarising the profile of the seven case studies in Table VII. This is followed by a synthesis of ICT adoption experiences (Table VIII) and evaluation of the stages of ICT adoption reached by the case studies (Table IX). The final part of the section discusses the attributes affecting ICT adoption within the given case studies.

### *5.1 Profile information of the case studies*

As shown in Table VII the case studies were all small hotel businesses of different sizes falling within the given SMEs definition (Section 2). Having started between 1997 and 2006, the ages of the small businesses ranged from two to 11 years. Interestingly, both small hotel businesses (B1 and B2) in Botswana were operating in partnership with internet cafes that offered better access to internet and other ICT services (Table VIII). Despite the interesting insights from the various cases, the different contextual factors such as varying sizes and lengths of business operations (Table VII) are limiting the extent to which a systematic cross-case and cross-national analysis can be undertaken, as explained in more detail in Section 5.4.1.

### *5.2 Summary of ICT adopted by the case studies*

The findings of each of the case studies summarised in Table VIII revealed that all the seven case studies in South Africa, Botswana and Zimbabwe were involved in the process of ICT adoption with a view to improving their e-business operations in areas like communication, e-mailing, security, record keeping, marketing, bookings and enquiries. However, there were some notable differences and similarities in the ICT actually adopted by the case studies, as shown in Table VIII.

Table VIII shows that all the case studies had managed to adopt fixed-line telephone, mobile phones, fax machines, computers, printers and basic software (Windows XP and Microsoft Office 2003) for use in their businesses. Notably, the evidence revealed that the case studies in South Africa and Botswana (Table VIII) had internet access through options ranging from dial-up (SA2) to high speed (broadband) options such as asymmetric digital subscriber line (ADSL) and wireless hotspots (SA1, SA3, B1, B2). By contrast, these online technologies were not yet adopted by Z1 and Z2 cases in Zimbabwe mainly due to lack of finance.

### *5.3 Levels of ICT adoption reached by the case studies*

By nature of the distinctive and behavioural characteristics of small firms, the adoption of ICT for use in their e-business operations is widely viewed as a process which evolves in various stages (Table V). Taking into account the technologies actually adopted (Table VIII) and the readiness issues such as individual (personal), organisational and environmental (Zappala and Gray, 2006a,b), the case studies are at the levels of ICT adoption suggested in Table IX.

Table IX shows that the levels of ICT adoption among the seven case studies varied from threshold stage (Z1 and Z2) in Zimbabwe to the intermediate stage for SA1 and SA3 in South Africa and the advanced stage reached by B2 case study in Botswana. As most of the small businesses were apparently responding pragmatically to their immediate

**Table VII.**

Comparison of the profile details of the case studies in South Africa, Botswana and Zimbabwe

Country Case studies	SA1	SA2	South Africa	SA3	B1	Botswana	B2	Z1	Zimbabwe Z2
Type of establishment	Hotel and travel centre	Guest lodge		Guest house	Internet centre (internet café)	Select service hotel	Business centre (internet café)	Hotel (inn)	Hotel (inn)
Location	Benoni	Johannesburg Benoni-Farmland		Kempton Park	Gaborone Close to city centre and University of Botswana	Grand Palm and GICC	Gaborone	Harare Avenues (close to city centre)	Harare Avenues (close to city centre)
Ownership	Family business	Family business (elderly couple over 60 years old)		Family business	Family business	Part of Peermont Global group of hotels	Family business	Joint venture	Family business
Number of employees	19	2		2	7	36	4	65	26
Number of rooms	44	3 rooms and 4 cabins		6	10	149	N/A	32	36
Number of beds	120	17		12	10	298		49	58
Star grading	Three star	Not yet graded		Three star	Not yet graded	Three star		One star	Not yet graded
Years in business	11	2		3	7	3	10	9	10
Year business started	1997	2006		2005	2001	2005	1998	1999	1998
Local guests (%)	10	40		20	N/A	10	N/A	90	90
Foreign guests (%)	90	60		80	60	90		10	10

**Notes:** N/A, not applicable; GICC, Gaborone International Convention Centre

**Source:** Interviews, observation and document analyses

South Africa Case studies		Botswana Case studies		Zimbabwe Case studies		
SA1	SA2	SA3	B1 and internet café	B2 and internet café	Z1	Z2
Fixed-line telephone	Fixed-line telephone	Fixed-line telephone	Fixed-line telephone	Fixed-line telephone	Fixed-line telephone	Fixed-line telephone
Public phone booth	Public phone booth	Public phone booth	Public phone booth	Public phone booth	Mobile phones (Net One, Telcel, Econet)	Mobile phones (Net One, Telcel, Econet)
Mobile phones (Vodacom, MTN, Cell C)	Mobile phones (Vodacom, MTN, Cell C)	Mobile phones (Vodacom, MTN, Cell C)	Mobile phones (Orange, Mascom)	Mobile phones (Orange, Mascom)	Fax machine	Fax machine
Fax machine	Fax machine	Fax machine	Computers, printers, photocopiers	Computers, printers, photocopiers	Computers, printers	Computers, printers
Computer, printer	Computer, printer	Computers, printers, photocopiers	Computers, printers, photocopiers	Computers, printers, photocopiers	Computers, printers	Computers, printers
Basic software (e.g. Windows XP, Microsoft Office)	Basic software (e.g. Windows 98, Microsoft Office)	Basic software (e.g. Windows XP, Microsoft Office)	Basic software (e.g. Windows XP, Microsoft Office)	Basic software (e.g. Windows XP and Vista, Microsoft Office 2003 and 2007)	Basic software (e.g. Windows XP, Microsoft Office)	Basic software (e.g. Windows XP, Microsoft Office)
Internet and web sites	Internet and web sites	Internet and web sites	Internet and web sites	Internet and web sites	Basic software (e.g. Windows XP, Microsoft Office)	Basic software (e.g. Windows XP, Microsoft Office)
Internet Café	Internet Café	Internet Café	Internet Café	Internet Café	Computers, printers	Computers, printers
Wireless hotspots	Wireless hotspots	Wireless hotspots	Wireless hotspots	Wireless hotspots	Computers, printers	Computers, printers
High-speed internet (ADSL connection)	Dial-up internet connection	High-speed internet (ADSL connection)	High-speed internet (ADSL connection)	High speed internet (ADSL connection)	Computers, printers	Computers, printers
CCTV cameras				CCTV cameras	Computers, printers	Computers, printers
Guest room key cards				Guest room key cards	Computers, printers	Computers, printers
Online payment system				Online payment system	Computers, printers	Computers, printers
Screen projector, rear projector, TV/ video/DVD equipment				Screen projector, rear projector, TV/ video/DVD equipment	Screen projector, rear projector, TV/ video/DVD equipment	Screen projector, rear projector, TV/ video/DVD equipment

Source: Interviews, observation and document analyses

**Source:** Interviews, observation and document analyses

**Table VIII.**  
Summary of ICT adopted by the case studies in South Africa, Botswana and Zimbabwe

**Table IX.**  
Stages of ICT adoption  
for the case studies in  
South Africa, Botswana  
and Zimbabwe

Stages of ICT adoption (Zappala and Gray, 2006)	South Africa Case studies			Botswana Case studies		Zimbabwe Case studies	
	SA1	SA2	SA3	B1 and internet café	B2 and internet café	Z1	Z2
Pre-stage: uninvolved (naïve, indifferent, hostile)							
Stage 1: threshold (keen to try ICT, unsure how)						✓	✓
Stage 2: beginner (recently online but unsure of where to go next)		✓		✓			
Stage 3: intermediate (internet, e-mail, web site, no ICT strategy)	✓		✓				
Stage 4: advanced (ICT an integral part of business strategy)					✓		
Stage 5: innovative (capability to exploit ICT strategically in process and product innovations)							

**Source:** Interviews, observation and document analyses

ICT adoption needs and challenges without any deliberate strategies, the results suggest that the case studies were not necessarily following a rational process characterised by linear steps in making decisions on how and when to invest in technology uptake.

5.4 Discussion of ICT adoption experiences of case studies

This part of the paper presents an in-depth discussion of the ICT adoption experiences (Tables VIII and IX) of the case studies (Table VII). These have been organised under the major headings of the identified key attributes namely organisational, environmental, owner/managerial, social networks and government role (Table V). The discussions also include quotes from the interviewees as well as citations obtained from guest feedback forms which were used in those cases (SA2 and SA3) where it was not possible to interview customers (Table VI).

5.4.1 *Organisational attributes and the levels of ICT adoption.* The organisational attributes for ICT adoption in small firms relate to functional capabilities which are explained in terms of the distinctive characteristics such as business size, type, operations, organisational structure, organisational readiness, access to resources (human, financial and technological) as well as marketing and strategy dimensions (Table V). The differences in the organisational attributes only partially explain the different levels of ICT adoption reached by the seven case studies in the three SADC countries.

Although the contextual differences highlighted in Table VII are limiting the extent to which a systematic cross-case and cross-national analysis can be undertaken, the results offer interesting insights regarding the case studies, including the impact these factors could possibly have on their ICT adoption efforts. In some cases (SA1 and B2),

which experienced relatively more stable economic and environmental conditions (Section 5.4.2), the size and number of years of experience in business appeared to have some significant drive on ICT uptake (Table VIII). However, in other cases (SA2, SA3, B1, Z1, Z2), these varying sizes and lengths of business operations seemed to have less influence on ICT adoption compared to other key factors such as stable external environment, financial access and owner manager support (Section 5.4.3). For example, both SA2 and SA3 in South Africa were far smaller in size and number of years in business compared to both Z1 and Z2 in Zimbabwe (Table VII). But despite this, it was interesting to note that SA2 and SA3 had better ICT adoption than Z1 and Z2 which had no internet connection or web sites of their own (Table VIII) mainly due to lack of finance.

Furthermore, SA1 and SA3 cases had different sizes and number of years in operation (Table VII) but both had reached the intermediate level (Stage 3) of ICT adoption (Table IX) due to financial support as suggested by owner manager in the following quotation:

[...] our place is currently undergoing a lot of renovations with plans to expand the size and operations in order to be upgraded to at least a 4 Star hotel. We also intend to buy more computers for our internet café. We need these modern technologies in order to survive during these times when there are so many hotels coming up rapidly especially in places around the airport (SA1, owner manager).

The use of web sites was helping some cases such as SA3 to be easily identified by customers online as the following citation taken from the guest feedback forms suggests:

[...] It's very close to [Johannesburg International] Airport and easy to find [online] (SA3, Guest from South Africa).

On the other hand, the lack of finance and small size of the business (Table VII) were the major inhibiting factors to adoption of better technologies at some cases (SA2). With a dial-up internet connection; a few websites as well as a single computer 'constantly freezing', SA2 owner managers revealed that their old age (Smallbone *et al.*, 1995) was a major barrier to the possibility of borrowing from the bank to finance their operations:

Borrowing at our old age [over 60 years] can be a risky undertaking especially considering the small size of our business and the little income we are generating and immediately use it to finance the upgrading of our existing infrastructure. We are not prepared to get into a burden of repaying the loan with high interest rates and bank charges which we cannot afford (SA2, owner manager1).

In Botswana, B2 which had reached at an advanced level (Stage 4) of ICT adoption (Table IX) had unique advantages derived from being part of the Peermont Global group of hotels (Table VII) and partnership with the internet café which offered better internet access and other ICT services to the customers. Similarly, B1 case study, classified at Stage 2 (beginner's level) of ICT adoption (Table IX) also established a strategic partnership with the internet centre which specialised in internet access and other ICT services to the customers.

By contrast, the case studies in Zimbabwe (Z1 and Z2), both at the threshold stage of ICT adoption (Table IX) had no internet connection and web sites for online business operations. Despite the availability of support infrastructure (Buddecom, 2008c) and internet service providers (ISPs) (Table V), the level of ICT adoption among these case

studies remained low due to lack of finance attributed to the economic decline and hyperinflation experienced in Zimbabwe (STERP, 2009).

*5.4.2 Environmental attributes.* Our case study results suggested that environmental attributes such as pressure from customers, competitors, employees and technology suppliers play an important role in the adoption of ICT in small businesses. Moreover, other external factors such as business environment, peace, security and stability are also crucial in the ICT adoption process, as highlighted by a participant from a case study in South Africa:

The surveillance system offered by our 16 CCTV cameras is important for both residents and visitors at this hotel. These security systems give everybody here a peace of mind in an environment where crime and armed robbery are still major public concerns in this country (SA1, owner manager).

In terms of pressure from customers and the importance of using websites, one participant had the following views:

[...] the use of web sites has also helped us a lot. More than 90% of the bookings are from foreign guests coming for conferences, workshops, meetings, seminars and other business activities at the Grand Palm casino and resort. These foreign guests prefer to make their bookings using the website [...] (B2, General Manager).

Another participant also pointed out:

The idea of wireless internet connection came up following several requests from guests, mostly those coming from overseas with laptops. Several of them have come here asking for wireless internet connection for their laptops and we then decided to set up the wireless hotspot internet access here (SA3, Owner Manager).

Furthermore, in some cases, the customers with laptops were finding the wireless internet access as a more convenient technology than having to wait in a queue for computers which were not enough in the internet café. This was affirmed by one of the visitors:

Without the internet at this hotel, I could have missed my flight booking. I am so much used to emailing my family and friends whenever I am away from home [...] The wireless hotspots internet connection is a better option here than having to wait in a queue at the internet café [...] (SA1, Guest from Chile).

In Botswana, for example, one employee who had acquired ICT skills in computerised hotel reservation system at college expected to see management considering the purchase of the software which was perceived useful for online bookings and enquiries but not yet taken up at the case study due to lack of finance:

I graduated at a local college with a certificate in International tourism and hospitality. The managers should consider purchasing software such as "Galileo Computer Reservations System" which I learnt at college so that we can use it to make online bookings and enquiries (B1, receptionist1).

Similarly, the experiences of the case studies in Zimbabwe suggested the important role employees can play in the process of ICT adoption in small firms as illustrated in the following quotation:



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There are plans to set up an internet café and wireless hotspots for internet access at this hotel. The internet, in particular, is very important for us and the guests [...] but we cannot afford this and the computers that we need for the internet café without foreign currency. Our Director agreed that these technologies will be considered as soon as our financial situation improves (Z2, General Manager).

Despite the evident pressure from the employees in the views above, it was interesting to note that the views from participants in some cases suggested that the final decision to invest in the adoption of ICT appeared to rest with the key decision makers in the small firms, as reflected in the quotation below:

The dial-up internet connection was once set up at this hotel. However, our Director told us after a few months that it had to be stopped because of sustainability problems. With the current conditions of hyperinflation, high tariffs and financial problems, clearly the economy is not so good [...] and our foreign currency inflows are limited at the moment (Z2, receptionist1).

In other cases like B2 in Botswana, technology suppliers were playing an important role in promoting the adoption and use of ICT in the business operations as the following quotation suggests:

We buy our computers, printers and other equipment from Hewlett Packard [HP] branches here in Gaborone and South Africa. As a result, their technicians from the local branch come regularly to do some repairs and carry out the necessary checks and tests on all the computers, printers and so on [...] This is important to ensure that our machines are well checked and serviced before the delegates come for conferences and workshops at this venue (B2, Business Centre receptionist).

However, the evidence in the quotation above suggests that supply of technology alone may not be enough to bring out the most of the possible benefits small businesses can derive from ICT unless it comes with technical support, which in some cases might be lacking.

*5.4.3 Owner/managerial attributes.* The decisions involving planning, purchasing and investment in the uptake of technology in small firms largely depend on the role played by the key decision makers such as owner managers. Zappala and Gray (2006a, b) argued that these key decision-makers need to be personally motivated, supportive and ready (Table V) for ICT adoption process in the operations of their small businesses. The results from some case studies offered useful insights in support of the existing theories. For example, owner manager of SA1 in South Africa displayed great passion and determination, as revealed in the quotation below:

At the beginning in 1997, we didn't have the internet and websites that we use here today for marketing purposes and facilitating online enquiries and bookings. I used to go and look for the guests and pick them up from the Johannesburg International Airport. I would leave the airport after the arrival of the last flight of each day, and only sleeping for 2 or 3 hours! It was very hard but our passion remained the driving factor in our achievements (SA1, Owner Manager).

Moreover, the positive attitude and willingness of owner managers in some cases were evidently crucial for the future plans involving ICT adoption which promised to offer more efficiency and convenience to the small business operations as the following quotation suggests:

We currently do not have internet access for our guests [...] so the hotspots wireless internet would be a good idea to give our guests access to the internet in the convenience

of their rooms. A lot of times the guests have asked for internet access and we had to take them to the nearby Oakfield and Northmead Square shopping centres for the service. We are finding this problem and the travelling involved causing a lot of inconveniences for us and the guests (SA2, Owner Manager1).

In terms of management support to employees, one participant in Botswana explained:

The employees that we have were recruited on the basis of their skills and qualifications. Most of them are highly skilled graduates from colleges and universities in Botswana and other neighbouring countries. There are currently only two temporary trainee students from a local college who are here for their industrial placement. We offer our new employees in-house training and other necessary support to improve their skills (B2, General Manager).

From the case study results and views of the participants, it can be concluded that the support of key decision-makers in the ICT adoption process is vital and their readiness is determined by a combination of several personal traits which include individual abilities, skills, experience, cultural background, capabilities, education, qualifications, age as well as attitude, motivation and perceived benefits of ICT equipment and applications (Table V).

*5.4.4 Social networks.* Social networks have a crucial role to play in driving the process of ICT adoption in small firms. Depending on the nature of the social networks, the information and experiences are shared in some ways, which may lead to the adoption or rejection of technologies and new innovations in the small businesses. The existing theories (Zappala and Gray, 2006a,b; Gibbs *et al.*, 2007; Beckinsale and Ram, 2006) concurred that the size and type of social structures as well as the nature of social links and preference for personal friendships and contacts may have positive or negative influence on ICT adoption in SMEs.

In South Africa, for example, the case studies were befitting a lot from being members of large formal association like the Johannesburg International Guest house Association (JIGA) as reflected in the quotation below:

JIGA members would pick up a lot of useful information; make contacts; meet suppliers of technology and service providers. As listed members we get better bargaining opportunities for discounts on purchases of technology and other requirements for our businesses (SA2, Owner Manager1).

Similarly, the small informal associations and personal friendships were playing an important role in the operations of some case studies as the following quotation suggests:

The group is currently an informal association which is not registered and is only an initiative of our Benoni neighbourhood with interest in this kind of business. Our services are slightly different in this social group in order to cater for various needs of the different types of guests that we attract here. However, if any of our members is full, we share the guest-overflows amongst ourselves (SA2, Owner Manager1).

Furthermore, social networks and support agencies had a crucial role to play particularly for the case studies (Z1, Z2) experiencing resource constraints which inhibited their ICT adoption efforts as explained in the following quotation:

The Zimbabwe Tourism Authority is facilitating the spread of tourism and technology information through the information centres; road shows and tourism expos. By inviting opinion leaders; local and international celebrities and renowned musicians, ZTA helps to

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market our businesses and promote the image of the country which has received a lot of negative publicity in recent years due to the current political and economic environment (Z1, General Manager1).

Distinctively, one case study (B1) in Botswana was using sport patronage for marketing purposes as well as increasing its influence in the social networks involving the Botswana National Sports Council (BNSC) and guest-return rate of customers coming to the nearby national sport stadium for competitions from across the country:

We are sponsoring various sports [...] and every year we provide funding to BNSC so that it can be used to support individuals or teams with outstanding performance at local and national levels. Over the years, this has helped us to boost our bookings from the guests coming for sporting competitions regularly held at the nearby national sport stadium [...] these guests and students from the University of Botswana always keep our internet café very busy. (B1, Owner Manager).

*5.4.5 Government role.* The role of government in the business activities of the case studies in South Africa, Botswana and Zimbabwe was crucial although largely indirect. However, the evidence showed that government intervention was crucial in creating a stable and peaceful external environment (Table V), development of ICT policy, support infrastructure (Buddecom, 2008a, b, c), tourism development, dissemination of information, power supply and conditions for public-private partnerships. From all the case studies in the three SADC countries, the participants were expressing serious concerns about the erratic power supply, as the following quotation reveals:

Apart from the shortage of computers for our customers in the internet café, our major concern is on the frequent power cuts that we experience here without notice. At times it can take the whole day before Telkom reconnects our internet services (SA1, Receptionist2).

Another participant from SA2 added:

The problem of load shedding is seriously affecting our business operations and electronic equipment. Now our computer keeps on freezing and occasionally switching off on its own [...] we are not certainly sure whether the computer is infected by a virus or it is just faulty because of the power cuts that we have been frequently experiencing since January 2008 (SA2, Owner Manager1).

Similarly in Zimbabwe, participants were deeply concerned about long periods of power outages as illustrated in the following quotation:

We sometimes go for several days or even weeks without electricity. This is a big problem which is affecting our operations[...]. It is very frustrating and difficult to do business here without electricity for such a long time (Z1, General Manager1).

Clearly, the views from the experiences of the case studies suggested that the participants were expecting their Governments in South Africa, Botswana and Zimbabwe to continue addressing the external issues which included stable business environment, infrastructure development and sustainable power supply in order to support their business operations and ICT adoption efforts.

## 6. Conclusions

The purpose of this paper was to present the results of examining ICT adoption among seven small hotel businesses in South Africa, Botswana and Zimbabwe. We examined

how the key attributes (government role, environmental, owner/managerial, organisational and social networks) influenced their ICT adoption process and discussed how this might influence the individual case study's level of ICT uptake.

The insights from secondary sources (Section 1.2), regarding ICT adoption revealed that connectivity and internet access were growing faster in South Africa as a result of the more competitive business environment and having more technology suppliers and internet services providers (ISPs) (Table II). Compared to Botswana and Zimbabwe, the distinctive advantages of South Africa in terms of ICT support infrastructure are a result of the country's massive investment in the development of the telecommunications sector (Table I).

The findings revealed that all the seven case studies in South Africa, Botswana and Zimbabwe were involved in the process of ICT adoption with a view to improving their e-business operations. Notably, all these SMEs had managed to adopt basic technologies that included fixed-line telephone, mobile phones, fax machines, computers and printers (Table VIII). However, the results from our case studies illustrated how political and economic stability are important prerequisite conditions for a business environment, which can either drive or inhibit ICT adoption and development of e-business among SMEs in these SADC countries. For example, the paper revealed that the case studies in both South Africa and Botswana, with relatively more stable political and economic environments, had websites and internet connection. By contrast, the case studies in Zimbabwe had no internet access and web sites (Table VIII) despite the availability of support infrastructure and ISPs (Table II) due to lack of finance. This suggested how Zimbabwe's political and economic conditions (Section 5.4) were holding back ICT adoption efforts in these particular small businesses.

The paper further highlighted the importance of personal attributes of owner managers and the crucial role of social networks (Section 5.4.4). The owner managers, in all the cases, were clearly key decision-makers with a crucial role to play in the decisions to invest and purchasing of ICT to support their e-business operations. The insights from these case studies find resonance with the social network approach (Zappala and Gray, 2006a,b), which suggested that ICT adoption is not necessarily a linear process and will not happen until the owner manager is ready. The social networks facilitated sharing of good practice, exchange of business knowledge, information, experiences, learning opportunities and access to technological and social support. As noted in some cases (SA1, SA3, B2), lack of internal expertise and knowledge gaps in the implementation of ICT could be reduced by the SMEs taking advantage of available training and learning opportunities offered by technology suppliers within their social networks. The organisational readiness for ICT adoption in some cases appeared to depend largely on the availability of financial support (SA1, SA3, B2), business size, structure, type of operations and other distinctive behavioural characteristics of the SMEs (Section 5). However, the varying sizes and number of years of business experiences of the case studies (Table VII), for example, limited the extent to which a systematic cross-case and cross-national analysis could be undertaken (Section 5.4).

The results have shown that the different levels of ICT adoption (Table IX) reached by the seven case studies significantly varied from threshold (lower) stage for the cases in Zimbabwe to the intermediate and advanced stages for some cases in South Africa and Botswana. We found that combining the two approaches, namely ICT adoption attributes and stage model offered an important theoretical framework (Table V) useful

for analysing and interpreting the levels reached by the SMEs in their process of ICT adoption as well as the key factors influencing that process.

To conclude, our research affirms that the key attributes (Table V) affect the process of ICT adoption and that this process is not necessarily linear and may progress as a consequence of other factors. In particular, the case studies in South Africa and Botswana revealed that financial support, owner/managerial and organisational attributes were playing a more significant role in driving ICT adoption than external factors. The research also highlighted the distinctive and behavioural characteristics of these particular case studies and the owner-managers' crucial role in decisions to purchase or invest in ICT uptake, including their ability to exchange information and/or gain business knowledge through their social networks. Finally, the findings contribute to literature on ICT adoption among SMEs in relatively under-researched contexts of South Africa, Botswana and Zimbabwe, bringing new rich insights from small hotel businesses operating in these countries. In addition, the research provided an opportunity to apply the model (Table V) within different geographical, economic, political and social contexts and was found to be a useful framework for undertaking this research in Southern Africa.

## References

- Archer, S. (1988), "Qualitative research and epistemological problems of the management disciplines", in Pettigrew, A.M. (Ed.), *Competitiveness and the Management Process*, Blackwell, Oxford.
- Bandiera, O. and Rasul, I. (2002), "Social networks and technology adoption in Northern Mozambique", *Suntory and Toyota International Centres for Economics and Related Disciplines (STICERD) – Development Economics Papers*, London School of Economics and Political Science, London, p. 49.
- Beckinsale, M. and Ram, M. (2006), "ICT adoption and e-business development: a framework for ethnic minority businesses", *Proceedings of the 29th Conference on Institute for Small Business and Entrepreneurship (ISBE)*, Cardiff-Caerdydd, Wales, UK.
- Brown, I. and Licker, P. (2003), "Exploring differences in internet adoption and usage between historically advantaged and disadvantaged groups in South Africa", *Journal of Global Information Technology*, Vol. 6 No. 4, p. 6.
- Buddecom (2008a), *Botswana – Telecoms Market Overview and Statistics*, Paul Budde Communication Pty Ltd, Bucketty, available at: [www.researchandmarkets.com; www.budde.com.au/](http://www.researchandmarkets.com; www.budde.com.au/)(accessed 24 October 2008).
- Buddecom (2008b), *South Africa – Key Statistics, Telecoms Market Overview and Regulatory Overviews*, Paul Budde Communication Pty Ltd, Bucketty, available at: [www.researchandmarkets.com/www.budde.com.au/](http://www.researchandmarkets.com/www.budde.com.au/) (accessed 31 October 2008).
- Buddecom (2008c), *Zimbabwe – Telecoms Market Overview and Statistics*, Paul Budde Communication Pty Ltd, Bucketty, available at: [www.researchandmarkets.com; available at: www.budde.com.au/](http://www.researchandmarkets.com; available at: www.budde.com.au/) (accessed 11 September 2008).
- Curran, J. and Blackburn, R.A. (2001), *Researching the Small Enterprise*, Sage, London.
- Davis, F. (1989), "Perceived usefulness perceived ease of use and user acceptance of information technology", *MIS Quarterly*, Vol. 13 No. 3, pp. 319-40.
- Druckman, D. (2005), *Doing Research: Methods of Inquiry for Conflict Analysis*, Sage, Thousand Oaks, CA.

- Ghauri, P. and Grønhaug, K. (2005), *Research Methods in Business Studies: A Practical Guide*, 3rd ed., Pearson Education Limited, Harlow.
- Gibbs, S., Sequeira, J. and White, M.M. (2007), "Social networks and technology adoption in small business", *International Journal of Globalisation and Small Business*, Vol. 2 No. 1, pp. 66-87.
- Gray, C.W.J. (2006a), "Growth-orientation, experience and the development of entrepreneurial absorptive capacity", paper presented at the Conference on 51st International Council for Small Business, Melbourne, June (Best Paper Award).
- Gray, C.W.J. (2006b), "Stage models of ICT adoption in small firms", in Zappala, S. and Gray, C. (Eds), *Impact of E-commerce on Consumers and Small Firms*, Ashgate, London, pp. 3-20.
- Internet World Stats (2008), "Miniwatts marketing group", Internet World Stats, available at: [www.internetworldstats.com/stats1](http://www.internetworldstats.com/stats1) (accessed 9 July 2008).
- Manueli, K., Latu, S. and Koh, D. (2007), "ICT adoption models", in Samuel, M. and Noel, B. (Eds), paper presented at the 20th Annual Conference of the National Advisory Committee on Computing Qualifications (NACCQ), Nelson, New Zealand, Samuel, M. and Noel, B. (eds).
- Marschan-Piekkari, R. and Welch, C. (2006), *Handbook of Qualitative Research Methods for International Business*, Edward Elgar, Cheltenham.
- Miles, M. and Huberman, A.M. (1994), *Qualitative Data Analysis: An Expanded Sourcebook*, Sage, Beverly Hills, CA.
- Nicol, C. (2003), *ICT Policy: A Beginner's Handbook*, The Association for Progressive Communications (APC), Johannesburg.
- PNC on ISAD (2004), "Presidential National Commission on information society and Dvelopment: business development for SMMEs", paper presented at The Trigrammic Consortium, Pretoria, available at: [www.pnc.gov.za](http://www.pnc.gov.za) (accessed 23 October 2006).
- Ritchie, B. and Brindley, C. (2005), "ICT adoption by SMEs: implications for relationships and Management", *New Technology Work and Employment*, Vol. 20 No. 3, pp. 205-17.
- Scupola, A. (2006), "Factors affecting e-commerce adoption in Danish and Australian SMEs", *The Social Studies of Information Systems Journal*, Vol. 1, pp. 7-20.
- Seyal, A.H. and Rahman, M.N.A. (2003), "A preliminary investigation of e-commerce adoption in small and medium enterprises in Brunei", *Journal of Global Information Technology Management*, Vol. 6 No. 2, pp. 6-25.
- Smallbone, D. and Welter, F. (2001a), "The distinctiveness of entrepreneurship in transition economies", *Small Business Economics*, Vol. 16 No. 4, pp. 249-62.
- Smallbone, D. and Welter, F. (2001b), "The role of government in SME development in transition economies", *International Small Business Journal*, Vol. 19 No. 4, pp. 63-77.
- Smallbone, D., Leigh, R. and North, D. (1995), "The characteristics and strategies of high growth SMEs", *International Journal of Entrepreneurial Behaviour and Research*, Vol. 1 No. 3, pp. 44-62.
- STERP (2009), *Getting Zimbabwe Moving Again*, Short Term Economic Recovery Programme, Republic of Zimbabwe, Harare.
- van Akkeren, J. and Cavaye, A.L. (1999), "Baby S to little S: small business IT market readiness and overcoming their fear factor", *Proceedings of the 10th Australasian Conference on Information Systems (ACIS99) Wellington, New Zealand, December*, pp. 1071-83.
- Verheugen, G. (2003), *The New SME Definition: User Guide and Model Declaration*, EU Enterprise and Industry Publications, Brussels.
- Windrum, P. and de Berranger, P. (2002), "The adoption of e-business technology by SMEs", MERIT – Infonomics Research Memorandum Series, Maastricht, pp. 1-32.



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(The) World Bank (2006), *Development Indicators*, The World Bank, Washington, DC.  
 Yin, R. (2003), *A Case Study Research: Design and Method*, 3rd ed., Sage, Thousand Oaks, CA.  
 Zappala, S. and Gray, C.W.J. (Eds) (2006a,b), *Impact of E-commerce on Consumers and Small Firms*, Ashgate, London.

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